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TRANSMITTAL FORM

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Total Number of Pages in This Submission

Application Number	10/071,903
Filing Date	February 8, 2002
First Named Inventor	Kim et al.
Art Unit	2616
Examiner Name	Thai D. Hoang
Attorney Docket Number	I-2-0176.2US

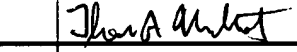
ENCLOSURES *(Check all that apply)*

- [X] Fee Transmittal Form
  - [ ] Fee Attached
- [ ] Amendment/Reply
  - [ ] After Final
  - [ ] Affidavits/declaration(s)
- [ ] Extension of Time Request
- [ ] Express Abandonment Request
- [ ] Information Disclosure Statement
- [ ] Certified Copy of Priority Document(s)
- [ ] Reply to Missing Parts/ Incomplete Application
  - [ ] Reply to Missing Parts under 37 CFR 1.52 or 1.53
- [ ] Drawing(s)
- [ ] Licensing-related Papers
- [ ] Petition
- [ ] Petition to Convert to a Provisional Application
- [ ] Power of Attorney, Revocation Change of Correspondence Address
- [ ] Terminal Disclaimer
- [ ] Request for Refund
- [ ] CD, Number of CD(s) _____
  - [ ] Landscape Table on CD
- [ ] After Allowance Communication to TC
- [ ] Appeal Communication to Board of Appeals and Interferences
- [ ] Appeal Communication to TC **(Appeal Notice, Brief, Reply Brief)**
- [ ] Proprietary Information
- [ ] Status Letter
- [X] Other Enclosure(s) (please Identify below):

Appeal Brief to the Board of Patent Appeals and Interferences Pursuant to C.F.R. §41.37(c).

Remarks

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT

Firm Name	VOLPE AND KOENIG, P.C.		
Signature			
Printed name	Thomas A. Mattioli		
Date	November 20, 2006	Reg. No.	56,773

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Fees pursuant to the Consolidated Appropriations Act, 2005 (H.R. 4818).

FEE TRANSMITTAL
For FY 2006

☐ Applicant claims small entity status. See 37 CFR 1.27

TOTAL AMOUNT OF PAYMENT ($) 500.00

Complete if Known	
Application Number	10/071,903
Filing Date	February 8, 2002
First Named Inventor	Kim et al.
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METHOD OF PAYMENT (check all that apply)

☐ Check ☐ Credit Card ☐ Money Order ☐ None ☐ Other (please identify): _____

☒ Deposit Account Deposit Account Number: 09-0435 Deposit Account Name: InterDigital Communications Corporation

For the above-identified deposit account, the Director is hereby authorized to: (check all that apply)

☒ Charge fee(s) indicated below ☐ Charge fee(s) indicated below, **except for the filing fee**

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FEE CALCULATION (All the fees below are due upon filing or may be subject to a surcharge.)

1. BASIC FILING, SEARCH, AND EXAMINATION FEES

	FILING FEES		SEARCH FEES		EXAMINATION FEES		
		Small Entity		Small Entity		Small Entity	
Application Type	Fee ($)	Fee ($)	Fee ($)	Fee ($)	Fee ($)	Fee ($)	Fees Paid ($)
Utility	300	150	500	250	200	100	
Design	200	100	100	50	130	65	
Plant	200	100	300	150	160	80	
Reissue	300	150	500	250	600	300	
Provisional	200	100	0	0	0	0	

2. EXCESS CLAIM FEES

Fee Description	Fee ($)	Small Entity Fee ($)
Each claim over 20 (including Reissues)	50	25
Each independent claim over 3 (including Reissues)	200	100
Multiple dependent claims	360	180

Total Claims		Extra Claims	Fee ($)		Fee Paid ($)
_____	-	= _____	x _____	=	0

HP = highest number of total claims paid for, if greater than 20.

Indep. Claims		Extra Claims	Fee ($)		Fee Paid ($)
_____	-	= _____	x _____	=	0

HP = highest number of independent claims paid for, if greater than 3.

Multiple Dependent Claims	
Fee ($)	Fee Paid ($)
_____	_____

3. APPLICATION SIZE FEE

If the specification and drawings exceed 100 sheets of paper (excluding electronically filed sequence or computer listings under 37 CFR 1.52(e)), the application size fee due is $250 ($125 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).

Total Sheets		Extra Sheets		Number of each additional 50 or fraction thereof	Fee ($)		Fee Paid ($)
_____	- 100 =	_____	/ 50 =	_____ (round **up** to a whole number)	x _____	=	_____

4. OTHER FEE(S)

	Fees Paid ($)
Non-English Specification, $130 fee (no small entity discount)	
Other (e.g., late filing surcharge): Appeal Brief to the Board of Patent Appeals and Interferences	500.00

SUBMITTED BY

Signature		Registration No. (Attorney/Agent) 56,773	Telephone 215-568-6400
Name (Print/Type)	Thomas A. Mattioli		Date November 20, 2006

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In the **PATENT APPLICATION** of:

Kim et al.

Application No.: 10/071,903

Confirmation No.: 3606

Filed: February 8, 2002

For: SIMPLE BLOCK SPACE TIME TRANSMIT DIVERSITY USING MULTIPLE SPREADING CODES

Group: 2616

Examiner: Thai D. Hoang

Our File: I-2-0176.2US

Date: November 20, 2006

APPEAL BRIEF TO THE BOARD OF PATENT APPEALS AND INTERFERENCES PURSUANT TO C.F.R. §41.37(c)

Mail Stop Appeal Brief -Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

Further to the September 20, 2006 Notice of Appeal, the Appellant hereby submits this Appeal Brief.

TABLE OF CONTENTS

(1) REAL PARTY IN INTEREST

In this Appeal, the real party in interest is the assignee of record, InterDigital Technology Corporation.

(2) RELATED APPEALS AND INTERFERENCES

A notice of appeal was filed contemporaneously in related Application No. 10/071,917. An appeal brief will be filed on or about the same day as the present appeal brief. Appellant and the undersigned representative do not know of any other appeal, interference, or judicial proceeding that is related to, directly affects, is directly affected by, or has a bearing on decision of the Board of Patent Appeals and Interferences (hereinafter the "Board" or the "Board of Appeals") in this Appeal.

(3) STATUS OF THE CLAIMS

Claims 1-4, 13 and 14 are rejected. Claims 1-4, 13 and 14 are the subject of this Appeal and are attached in the Claims Appendix. No other claims are pending.

(4) STATUS OF THE AMENDMENTS

Appellant filed a Reply on July 20, 2006, pursuant to 37 C.F.R. §1.116, subsequent to the final rejection mailed April 20, 2006 arguing the allowability of pending Claims 1-4, 13 and 14. The Appellant also objected to the finality of the April 20, 2006 rejection. However, the Appellant made no amendments to the pending claims in the aforementioned Reply. On August 21, 2006, an Advisory Action issued indicating that the July 20, 2006 Reply was not considered in the Examiner's opinion to place the application in condition for allowance.

(5) SUMMARY OF CLAIMED SUBJECT MATTER

Independent Claim 1

Claim 1 is directed to a method for a base station to transmit a data field of symbols (see page 4, paragraph [00023], and Figures 2 and 3). The method generates a first data field of symbols and encodes the first data field producing a second data field having complex conjugates of the symbols of the first data field (see page 4, paragraph [00023], lines 3-9). The first data field is spread using a first channelization code and the second data field is spread using a second channelization code (see page 4, paragraph [00024], lines 3-5, and step 306 in Figure 3). Each channelization code is uniquely associated with one of a first and second antennas (see step 306 in Figure 3 and page 5, from line 6 of paragraph [00030] to page 6, line 1 of paragraph [00030]). An RF signal including the first and second spread data fields is transmitted over a first and second antenna (see step 308 of Figure 3 and page 6, lines 2-3 of paragraph [00030]).

Dependent Claim 2

Claim 2 is directed toward the method of Claim 1, further including the scrambling of the first and second spread data fields by a scrambling code associated with the base station (see step 307 of Figure 3 and page 6, lines 1-2 of paragraph [00030]).

Dependent Claim 3

Claim 3 is directed toward the method of Claim 2 wherein the symbols of the first data field of symbols are grouped into a first and second sub-data field (see step 302 of Figure 3 and page 5, paragraph [00030] lines 2-3).

Dependent Claim 4

Claim 4 is directed toward the method of Claim 3 wherein the symbols of the second data field of symbols are grouped into a third and fourth sub-data field (see step 302 of Figure 3 and page 5, paragraph [00030] lines 2-3). The third sub-data field is the negative complex conjugate of said second sub-data field and said fourth sub-data field is the complex conjugate of said first sub-data field (see page 4, paragraph [00023], lines 7-10).

Independent Claim 13

Claim 13 is directed to a method for a base station to transmit a data field of symbols including a transmitter (see page 6, paragraph [00033], and Figures 5 and 6). The method generates a first data field of symbols (see page 6, paragraph [00033], lines 1-4). The first data field is spread using a first channelization code to produce a first spread data field (see page 6, paragraph [00033], lines 4-5, page 7, paragraph [00038], lines 5-6, and step 604 in Figure 6). The first data field is spread using a second channelization code producing a second spread data field (see page 6, paragraph [00033], lines 5-6, page 7, paragraph [00038], lines 5-6, and step 604 in Figure 6). Each channelization code is uniquely associated with one of a first and second antennas (see page 7, paragraph [00038], lines 5-6). An RF signal including the first and second spread data fields is transmitted over a first and second antenna (see page 7, paragraph [00038], line 8 and step 606 in Figure 6).

Dependent Claim 14

Claim 14 is directed to the method of claim 13, further including the steps of scrambling the first and second spread data fields by a scrambling code associated with the transmitter. (see page 7, paragraph [00038], lines 6-8 and step 605 in Figure 6).

(6) GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

Claims 1-4, 13 and 14 stand rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-4, 13 and 14 of various copending Applications. The Appellant is willing to submit a terminal disclaimer to overcome the rejections over the claims of the Applications cited if the Application is otherwise allowable.

Claims 1-4, 13 and 14 also stand rejected under 35 U.S.C. §103(a) as being unpatentable over Dabak et al. (U.S. Ref. No. 6,775,260) in view of Rowitch et al. (U.S. Ref. No. 6,628,702).

(7) ARGUMENT

Claims 1-4, 13 and 14 Meet the Requirements of 35 U.S.C. §103(a) as being patentable over Dabak et al. (U.S. Ref. No. 6,775,260) in view of Rowitch et al. (U.S. Ref. No. 6,628,702).

In order to establish a *prima facie* case of obviousness, the Examiner must demonstrate there is a suggestion or motivation, either in the references themselves, or in the knowledge generally available to one of ordinary skill in the art, to modify the references or to combine the reference teachings. Furthermore, the prior art references must teach or suggest **all** of the claim features. The Examiner is not free to pick bits and pieces from the prior art and, with the hindsight benefit of the Applicant's disclosure, attempt to reconstruct the invention. Orthopedic Equipment Inc. v. U.S., 217 U.S.P.Q. 193, 199 (Fed. Cir. 1983).

As the Examiner agrees, the Dabak et al. reference does not disclose, teach, nor suggest anywhere the use of different channelization codes. Indeed, in figure 2, the Dabak discloses, *inter alia*, encoded symbols D11 and D21 undergoing the **same** "user specific code" C1. There is no teaching that any different channelization code is used on the symbols in the Dabak reference. And notably, there is no teaching in the Dabak reference of "each channelization code being uniquely associated with one of a first and second antennas".

Furthermore, the Rowitch reference merely makes a vague reference in the background section relating to "covering the data for each antenna with a particular channelization code," but does not disclose, teach or suggest that the particular code is different for each antenna or uniquely associated with each antenna. Indeed, the Dabak reference itself discloses a "particular" user specific code. However, it is the same code, not a different code, and particularly not a different code that is uniquely associated with each antenna, as the Examiner agrees. Therefore, the Rowitch reference fails to cure the deficiencies of the Dabak reference.

Appellant's previously presented independent claim 1, on the other hand, recites:

> A method for a base station to transmit a data field of symbols comprising the steps of:
> generating a first data field of symbols;
> encoding said first data field producing a second data field having complex conjugates of the symbols of said first data field;
> spreading said first and second data fields, wherein said first data field is spread using a first channelization code and said second data field is spread using a second channelization code, each channelization code being uniquely associated with one of a first and second antennas; and
> transmitting an RF signal including said first and second spread data fields over a first and second antenna.

which is neither disclosed, taught nor suggested in the Dabak et al. reference or the Rowitch et al. reference. Accordingly, the Appellant's previously presented independent claim 1 is patentable over the Dabak and Rowitch references, whether taken alone or in combination with each other.

The Appellant's claims 2-4 depend, either directly or indirectly, from Appellant's patentable independent claim 1. Therefore, Appellant's dependent claims 2-4 are patentable for at least the same reasons as Appellant's patentable independent claim 1.

Appellant's previously presented independent claim 13 recites:

> A method for a base station to transmit a data field of symbols including a transmitter, the method comprising the steps of:
> generating a first data field of symbols;
> spreading said first data field using a first channelization code

producing a first spread data field;

spreading said first data field using a second channelization code producing a second spread data field, each channelization code being uniquely associated with one of a first and second antennas; and

transmitting an RF signal including said first and second spread data fields over a first and second antenna.

which is neither disclosed, taught nor suggested in the Dabak et al. reference or the Rowitch et al. reference. Accordingly, the Appellant's previously presented independent claim 13 is patentable over the Dabak and Rowitch references, whether taken alone or in combination with each other.

Additionally, claim 14 depends from Appellant's patentable independent claim 13, and is therefore patentable for at least the same reasons as Appellant's patentable independent claim 13.

(8) CONCLUSION

For the reasons stated above, pending claims 1-4, 13 and 14 meet the requirements of 35 U.S.C. §103(a) as patentable over the Dabak et al. and Rowitch et al. references, whether taken alone or in combination with one another. Accordingly, the final rejection of the claims under 35 U.S.C. §103(a) should be reversed.

Respectfully submitted,

Kim et al.

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TAM/yil

(9) CLAIMS APPENDIX

(PENDING CLAIMS OF U.S. PATENT APPLICATION NO. 10/071,903)

1. A method for a base station to transmit a data field of symbols comprising the steps of:

generating a first data field of symbols;

encoding said first data field producing a second data field having complex conjugates of the symbols of said first data field;

spreading said first and second data fields, wherein said first data field is spread using a first channelization code and said second data field is spread using a second channelization code, each channelization code being uniquely associated with one of a first and second antennas; and

transmitting an RF signal including said first and second spread data fields over a first and second antenna.

2. The method of claim 1 further comprising the step of scrambling said first and second spread data fields by a scrambling code associated with said base station.

3. The method of claim 2 wherein the symbols of said first data field of symbols are grouped into a first and second sub-data field.

4. The method of claim 3, wherein the symbols of said second data field of symbols are grouped into a third and fourth sub-data field, wherein said third sub-data

field is the negative complex conjugate of said second sub-data field and said fourth sub-data field is the complex conjugate of said first sub-data field.

13. A method for a base station to transmit a data field of symbols including a transmitter, the method comprising the steps of:

generating a first data field of symbols;

spreading said first data field using a first channelization code producing a first spread data field;

spreading said first data field using a second channelization code producing a second spread data field, each channelization code being uniquely associated with one of a first and second antennas; and

transmitting an RF signal including said first and second spread data fields over a first and second antenna.

14. The method of claim 13 further comprising the steps of scrambling said first and second spread data fields by a scrambling code associated with said transmitter.

(10) EVIDENCE APPENDIX

None.

(11) RELATED PROCEEDINGS APPENDIX

None.